LYcook 3/3/04

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> d his

     (FILE 'HOME' ENTERED AT 16:50:54 ON 02 MAR 2004)

     FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, ~~CANCERLIT~~, JAPIO' ENTERED AT
     16:51:15 ON 02 MAR 2004
L1           538 S MEGAKARYOCYTIC  AND UT?
L2             6 S L1 AND MAST?
L3            21 S L1 AND BASOPHIL?
L4             0 S L2 AND L3
L5             3 DUPLICATE REMOVE L2 (3 DUPLICATES REMOVED)
L6             7 DUPLICATE REMOVE L3 (14 DUPLICATES REMOVED)
L7           228 S MEGAKARYOCYTIC AND (MAST CELL)
L8            33 S L7 AND BASOPHIL?
L9             0 S L8 AND UT?
L10           11 DUPLICATE REMOVE L8 (22 DUPLICATES REMOVED)

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> d his

(FILE 'HOME' ENTERED AT 16:50:54 ON 02 MAR 2004)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT 16:51:15 ON 02 MAR 2004

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L1          538 S MEGAKARYOCYTIC  AND UT?
L2            6 S L1 AND MAST?
L3           21 S L1 AND BASOPHIL?
L4            0 S L2 AND L3
L5            3 DUPLICATE REMOVE L2 (3 DUPLICATES REMOVED)
L6            7 DUPLICATE REMOVE L3 (14 DUPLICATES REMOVED)
L7          228 S MEGAKARYOCYTIC AND (MAST CELL)
L8           33 S L7 AND BASOPHIL?
L9            0 S L8 AND UT?
L10          11 DUPLICATE REMOVE L8 (22 DUPLICATES REMOVED)
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ANSWER 6 OF 7 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 4
AN 1993:91325 BIOSIS
DN PREV199395046521
TI Granulocyte-macrophage colony-stimulating factor and erythropoietin act competitively to induce two different programs of differentiation in the human pluripotent cell line **UT**-7.
AU Hermine, Olivier; Mayeux, Patrick; Titeux, Monique; Mitjavila, Maria-Teresa; Casadevall, Nicole; Guichard, Josette; Komatsu, Norio; Suda, Toshio; Miura, Yasusada
CS INSERM U. 362, Institut Gustave Roussy, 39 rue Camille Desmoulins, 94805 Villejuif, France
SO Blood, (1992) Vol. 80, No. 12, pp. 3060-3069.
CODEN: BLOOAW. ISSN: 0006-4971.
DT Article
LA English
ED Entered STN: 9 Feb 1993
Last Updated on STN: 10 Feb 1993
AB The **UT**-7 cell line was established from a patient with a megakaryoblastic leukemia (Komatsu et al, Cancer Res 51: 341, 1991). Its proliferation is strictly dependent on the presence of hematopoietic growth factors including erythropoietin (Epo), granulocyte-macrophage colony-stimulating factor (GM-CSF), and interleukin-3 (IL-3). We investigated the differentiation capacities of this cell line under the action of several growth factors, using immunomarkers, flow cytometry, and ultrastructural techniques. In the presence of GM-CSF and IL-3, eosinophil and **basophil** promyelocytes were detected, as well as a few cells with erythroid and **megakaryocytic** (MK) differentiation features. In contrast, Epo induced a marked erythroid differentiation with an increase of glycophorin A expression, accompanied by a few hemoglobinized cells. Differentiation induced by the growth factors took 24 to 48 hours to begin, and increased with cell passages to a plateau at 2 weeks of culture. However, this was not only due to a cell selection because the differential effects of Epo and GM-CSF were observed from a single cell clone and the phenotype could be reversed by opposite growth factors, even after a long period of culture. We subsequently investigated the phenotype of **UT**-7 in the presence of combinations of Epo, IL-3, and GM-CSF, and showed that GM-CSF and IL-3 act predominantly over Epo. This effect was mediated by a rapid downmodulation of Epo receptors by GM-CSF at messenger RNA and binding sites levels, without a change in receptor affinities. On the other hand, Epo had no effect on number and affinity of GM-CSF receptors. This study shows that **UT**-7 is a growth factor-dependent pluripotent cell line in which commitment may be directed by a hierarchical action of growth factors through an early and rapid transmodulation of growth factor receptors.
CC Cytology - Human 02508
Biochemistry studies - Proteins, peptides and amino acids 10064
Blood - Blood cell studies 15004
Blood - Blood, lymphatic and reticuloendothelial pathologies 15006
Blood - Lymphatic tissue and reticuloendothelial system 15008
Endocrine - General 17002
Neoplasms - Blood and reticuloendothelial neoplasms 24010
Development and Embryology - Morphogenesis 25508
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Development; Endocrine System (Chemical Coordination and Homeostasis); Hematology (Human Medicine, Medical Sciences); Oncology (Human Medicine, Medical Sciences)
IT Chemicals & Biochemicals
ERYTHROPOIETIN
IT Miscellaneous Descriptors

ANSWER 6 OF 7 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 4
AN 1993:91325 BIOSIS
DN PREV199395046521
TI Granulocyte-macrophage colony-stimulating factor and erythropoietin act competitively to induce two different programs of differentiation in the human pluripotent cell line **UT**-7.
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CS INSERM U. 362, Institut Gustave Roussy, 39 rue Camille Desmoulins, 94805 Villejuif, France
SO Blood, (1992) Vol. 80, No. 12, pp. 3060-3069.
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CC Cytology - Human 02508
Biochemistry studies - Proteins, peptides and amino acids 10064
Blood - Blood cell studies 15004
Blood - Blood, lymphatic and reticuloendothelial pathologies 15006
Blood - Lymphatic tissue and reticuloendothelial system 15008
Endocrine - General 17002
Neoplasms - Blood and reticuloendothelial neoplasms 24010
Development and Embryology - Morphogenesis 25508
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Development; Endocrine System (Chemical Coordination and Homeostasis); Hematology (Human Medicine, Medical Sciences); Oncology (Human Medicine, Medical Sciences)
IT Chemicals & Biochemicals
ERYTHROPOIETIN
IT Miscellaneous Descriptors

INTERLEUKIN-3; MEGAKARYOBLASTIC LEUKEMIA; RECEPTORS
ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
Hominidae
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates
RN 11096-26-7 (ERYTHROPOIETIN)

INTERLEUKIN-3; MEGAKARYOBLASTIC LEUKEMIA; RECEPTORS
ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
Hominidae
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates
RN 11096-26-7 (ERYTHROPOIETIN)

ANSWER 3 OF 7 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 2
AN 2000:12077 BIOSIS
DN PREV200000012077
TI Modulation of histidine decarboxylase activity and cytokine synthesis in human leukemic cell lines: Relationship with **basophilic** and/or **megakaryocytic** differentiation.
AU Dy, Michel [Reprint author]; Pacilio, Maria; Arnould, Anne; Machavoine, Francois; Mayeux, Patrick; Hermine, Olivier; Bodger, Michael; Schneider, Elke
CS CNRS UMR 8603, Hopital Necker, 161 rue de Sevres, 75743, Paris Cedex 15, France
SO Experimental Hematology (Charlottesville), (Aug., 1999) Vol. 27, No. 8, pp. 1295-1305. print.
CODEN: EXHMA6. ISSN: 0301-472X.
DT Article
LA English
ED Entered STN: 23 Dec 1999
Last Updated on STN: 31 Dec 2001
AB In the present study, we show that **UT7D1** cells, derived from the pluripotent cell line **UT7**, express high levels of histidine decarboxylase (HDC) mRNA spontaneously. These cells conserve the ability to differentiate into megakaryocytes upon stimulation with PMA, while greatly increasing their HDC activity. We provide evidence that enhanced HDC activity reflects the **basophil** rather than the **megakaryocytic** differentiation potential of **UT7D1** cells. Indeed, in addition to HDC mRNA, they express spontaneously several other mRNA coding for molecules present in **basophils** (FcepsilonRI, CCR3, IL-4Ralpha, IL-5Ralpha). Furthermore, the **basophil** antigen Bsp-1 is displayed on the surface of some **UT7D1** cells in response to PMA concomitantly with increased histamine synthesis and mRNA expression of typical **basophil**-derived cytokines (IL-6, IL-4, and IL-13). Nevertheless, PMA cannot sustain the differentiation of this lineage, because mRNAs for **basophil** markers gradually diminish during long-term culture, whereas molecules associated with the **megakaryocytic** lineage remain prominent. In support of the notion that HDC activity is not related with megakaryopoiesis, we show that PMA-induced CD41 expression and PDGF transcription occurs in the K562 cells, though neither HDC mRNA nor any known **basophil** marker are expressed in these conditions. In contrast, all these markers are expressed in the **basophilic** leukemia cell line KU812F. Interestingly, the **megakaryocytic** cell line HEL produces also substantial amounts of histamine and expresses FcepsilonRI, thus revealing its **basophil** differentiation potential. HEL as well as KU812F need not be stimulated with PMA to react with Bsp-1 mAb, suggesting that they are more engaged into the **basophil** differentiation scheme than **UT7D1**. Other leukemic cell lines unrelated to the megakaryocyte or **basophil** lineage, like HL60 and U937 do neither synthesize histamine nor express **basophil** markers before or after PMA stimulation. To our knowledge, this is the first evidence for a factor-dependent cell line with megakaryocyte/**basophil** bipotentiality with which early stages of **basophil** commitment can be analyzed.
CC Blood - General and methods 15001
Cytology - Animal 02506
Cytology - Human 02508
Immunology - General and methods 34502
Neoplasms - General 24002
Biochemistry studies - General 10060
IT Major Concepts
Cell Biology; Blood and Lymphatics (Transport and Circulation); Tumor Biology

ANSWER 3 OF 7 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 2

AN 2000:12077 BIOSIS

DN PREV200000012077

TI Modulation of histidine decarboxylase activity and cytokine synthesis in human leukemic cell lines: Relationship with **basophilic** and/or **megakaryocytic** differentiation.

AU Dy, Michel [Reprint author]; Pacilio, Maria; Arnould, Anne; Machavoine, Francois; Mayeux, Patrick; Hermine, Olivier; Bodger, Michael; Schneider, Elke

CS CNRS UMR 8603, Hopital Necker, 161 rue de Sevres, 75743, Paris Cedex 15, France

SO Experimental Hematology (Charlottesville), (Aug., 1999) Vol. 27, No. 8, pp. 1295-1305. print.
CODEN: EXHMA6. ISSN: 0301-472X.

DT Article

LA English

ED Entered STN: 23 Dec 1999
Last Updated on STN: 31 Dec 2001

AB In the present study, we show that **UT7D1** cells, derived from the pluripotent cell line **UT7**, express high levels of histidine decarboxylase (HDC) mRNA spontaneously. These cells conserve the ability to differentiate into megakaryocytes upon stimulation with PMA, while greatly increasing their HDC activity. We provide evidence that enhanced HDC activity reflects the **basophil** rather than the **megakaryocytic** differentiation potential of **UT7D1** cells. Indeed, in addition to HDC mRNA, they express spontaneously several other mRNA coding for molecules present in **basophils** (FcepsilonRI, CCR3, IL-4Ralpha, IL-5Ralpha). Furthermore, the **basophil** antigen Bsp-1 is displayed on the surface of some **UT7D1** cells in response to PMA concomitantly with increased histamine synthesis and mRNA expression of typical **basophil**-derived cytokines (IL-6, IL-4, and IL-13). Nevertheless, PMA cannot sustain the differentiation of this lineage, because mRNAs for **basophil** markers gradually diminish during long-term culture, whereas molecules associated with the **megakaryocytic** lineage remain prominent. In support of the notion that HDC activity is not related with megakaryopoiesis, we show that PMA-induced CD41 expression and PDGF transcription occurs in the K562 cells, though neither HDC mRNA nor any known **basophil** marker are expressed in these conditions. In contrast, all these markers are expressed in the **basophilic** leukemia cell line KU812F. Interestingly, the **megakaryocytic** cell line HEL produces also substantial amounts of histamine and expresses FcepsilonRI, thus revealing its **basophil** differentiation potential. HEL as well as KU812F need not be stimulated with PMA to react with Bsp-1 mAb, suggesting that they are more engaged into the **basophil** differentiation scheme than **UT7D1**. Other leukemic cell lines unrelated to the megakaryocyte or **basophil** lineage, like HL60 and U937 do neither synthesize histamine nor express **basophil** markers before or after PMA stimulation. To our knowledge, this is the first evidence for a factor-dependent cell line with megakaryocyte/**basophil** bipotentiality with which early stages of **basophil** commitment can be analyzed.

CC Blood - General and methods 15001
Cytology - Animal 02506
Cytology - Human 02508
Immunology - General and methods 34502
Neoplasms - General 24002
Biochemistry studies - General 10060

IT Major Concepts
Cell Biology; Blood and Lymphatics (Transport and Circulation); Tumor Biology

IT Diseases
leukemia: blood and lymphatic disease, neoplastic disease
Leukemia (MeSH)
IT Chemicals & Biochemicals
Bsp-1: **basophil** antigen, expression; CCR3: expression; CD41: expression; Fc-epsilon-RI: expression; PMA [phorbol 12-myristate 13-acetate]; histamine: synthesis; histidine decarboxylase: activity regulation; histidine decarboxylase mRNA [histidine decarboxylase messenger RNA]: expression, regulation; interleukin-13: expression; interleukin-4: expression; interleukin-5: expression; interleukin-6; platelet-derived growth factor: transcription
ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
HEL cell line: megakaryocytes
HL60 cell line
K562 cell line: leukemia cells
KU812 cell line: **basophilic** leukemia cells
U937 cell line
**UT7D1** cell line: **basophilic** differentiation, cytokine synthesis, leukemia cells, **megakaryocytic** differentiation
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates
RN 62-38-4Q (PMA)
64-13-1Q (PMA)
16561-29-8Q (PMA)
25087-26-7Q (PMA)
78565-16-9Q (PMA)
276704-22-4Q (PMA)
62-38-4Q (phorbol 12-myristate 13-acetate)
64-13-1Q (phorbol 12-myristate 13-acetate)
16561-29-8Q (phorbol 12-myristate 13-acetate)
25087-26-7Q (phorbol 12-myristate 13-acetate)
78565-16-9Q (phorbol 12-myristate 13-acetate)
276704-22-4Q (phorbol 12-myristate 13-acetate)
51-45-6 (histamine)
9024-61-7 (histidine decarboxylase)

IT Diseases
leukemia: blood and lymphatic disease, neoplastic disease
Leukemia (MeSH)
IT Chemicals & Biochemicals
Bsp-1: **basophil** antigen, expression; CCR3: expression; CD41: expression; Fc-epsilon-RI: expression; PMA [phorbol 12-myristate 13-acetate]; histamine: synthesis; histidine decarboxylase: activity regulation; histidine decarboxylase mRNA [histidine decarboxylase messenger RNA]: expression, regulation; interleukin-13: expression; interleukin-4: expression; interleukin-5: expression; interleukin-6; platelet-derived growth factor: transcription
ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
HEL cell line: megakaryocytes
HL60 cell line
K562 cell line: leukemia cells
KU812 cell line: **basophilic** leukemia cells
U937 cell line
**UT7D1** cell line: **basophilic** differentiation, cytokine synthesis, leukemia cells, **megakaryocytic** differentiation
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates
RN 62-38-4Q (PMA)
64-13-1Q (PMA)
16561-29-8Q (PMA)
25087-26-7Q (PMA)
78565-16-9Q (PMA)
276704-22-4Q (PMA)
62-38-4Q (phorbol 12-myristate 13-acetate)
64-13-1Q (phorbol 12-myristate 13-acetate)
16561-29-8Q (phorbol 12-myristate 13-acetate)
25087-26-7Q (phorbol 12-myristate 13-acetate)
78565-16-9Q (phorbol 12-myristate 13-acetate)
276704-22-4Q (phorbol 12-myristate 13-acetate)
51-45-6 (histamine)
9024-61-7 (histidine decarboxylase)

ANSWER 1 OF 7 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 1
AN 2001:420141 BIOSIS
DN PREV200100420141
TI Thrombopoietin induces histidine decarboxylase gene expression in c-mpl transfected **UT7** cells.
AU Pacilio, Maria; Debili, Najet; Arnould, Anne; Machavoine, Francois; Rolli-Derkinderen, Malvyne; Bodger, Michael; Arock, Michel; Dumenil, Dominique; Dy, Michel; Schneider, Elke [Reprint author]
CS CNRS UMR 8063, Hopital Necker, 161 rue de Sevres, 75743, Paris Cedex, 15, France
schneider@necker.fr
SO Biochemical and Biophysical Research Communications, (August 3, 2001) Vol. 285, No. 5, pp. 1095-1101. print.
CODEN: BBRCA9. ISSN: 0006-291X.
DT Article
LA English
ED Entered STN: 5 Sep 2001
Last Updated on STN: 22 Feb 2002
AB The leukemic cell line **UT7** is endowed with both megakaryocyte and **basophil** differentiation potential, as judged by its capacity to respond to PMA by displaying **megakaryocytic** and **basophilic** markers and to produce histamine by neosynthesis. Herein, we addressed the question whether the biological activities characteristic of **basophil** differentiation were still induced when c-mpl-transfected **UT7** cells received a specific **megakaryocytic** differentiation signal delivered by thrombopoietin (TPO). Surprisingly, we found that histamine synthesis did effectively occur in response to the growth factor. This activity was not associated with megakaryopoiesis since it was not detected in megakaryocytes generated from CD34+ cells cultured in the presence of TPO. Comparing different c-mpl-transfected cell lines, we found that the amount of histamine generated in response to TPO correlated with their responsiveness to PMA, but not with their level of c-mpl expression, thus revealing an intrinsic **basophil** differentiation potential. Both PMA- and TPO-induced histamine synthesis was reduced by PKC and MEKs inhibitors, indicating that the induction occurred through a common signalling pathway.
CC Cytology - Human 02508
Biochemistry studies - General 10060
Biochemistry studies - Proteins, peptides and amino acids 10064
Enzymes - General and comparative studies: coenzymes 10802
Endocrine - General 17002
IT Major Concepts
Biochemistry and Molecular Biophysics
IT Chemicals & Biochemicals
MEK [mitogen activated protein kinase kinase]; PKC [protein kinase C]; histamine: synthesis; histidine decarboxylase [EC 4.1.1.22]; phorbol 12-myristate 13-acetate; thrombopoietin
ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
**UT7** cell line: differentiation, human leukemic cell
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates
RN 51-45-6 (histamine)
9024-61-7 (histidine decarboxylase)
9024-61-7 (EC 4.1.1.22)
16561-29-8 (phorbol 12-myristate 13-acetate)
9014-42-0 (thrombopoietin)

ANSWER 1 OF 7 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 1
AN 2001:420141 BIOSIS
DN PREV200100420141
TI Thrombopoietin induces histidine decarboxylase gene expression in c-mpl transfected **UT7** cells.
AU Pacilio, Maria; Debili, Najet; Arnould, Anne; Machavoine, Francois; Rolli-Derkinderen, Malvyne; Bodger, Michael; Arock, Michel; Dumenil, Dominique; Dy, Michel; Schneider, Elke [Reprint author]
CS CNRS UMR 8063, Hopital Necker, 161 rue de Sevres, 75743, Paris Cedex, 15, France
schneider@necker.fr
SO Biochemical and Biophysical Research Communications, (August 3, 2001) Vol. 285, No. 5, pp. 1095-1101. print.
CODEN: BBRCA9. ISSN: 0006-291X.
DT Article
LA English
ED Entered STN: 5 Sep 2001
Last Updated on STN: 22 Feb 2002
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CC Cytology - Human 02508
Biochemistry studies - General 10060
Biochemistry studies - Proteins, peptides and amino acids 10064
Enzymes - General and comparative studies: coenzymes 10802
Endocrine - General 17002
IT Major Concepts
Biochemistry and Molecular Biophysics
IT Chemicals & Biochemicals
MEK [mitogen activated protein kinase kinase]; PKC [protein kinase C]; histamine: synthesis; histidine decarboxylase [EC 4.1.1.22]; phorbol 12-myristate 13-acetate; thrombopoietin
ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Organism Name
**UT7** cell line: differentiation, human leukemic cell
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates
RN 51-45-6 (histamine)
9024-61-7 (histidine decarboxylase)
9024-61-7 (EC 4.1.1.22)
16561-29-8 (phorbol 12-myristate 13-acetate)
9014-42-0 (thrombopoietin)

141436-78-4 (PROTEIN KINASE C)
142805-58-1 (MITOGEN ACTIVATED PROTEIN KINASE KINASE)
GEN c-mpl gene; human histidine decarboxylase gene (Hominidae)

141436-78-4 (PROTEIN KINASE C)
142805-58-1 (MITOGEN ACTIVATED PROTEIN KINASE KINASE)
GEN c-mpl gene; human histidine decarboxylase gene (Hominidae)

ANSWER 6 OF 11 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 5
AN 1992:455033 BIOSIS
DN PREV199294096433; BA94:96433
TI PHENOTYPIC CHARACTERIZATION OF KU812 A CELL LINE IDENTIFIED AS AN IMMATURE HUMAN **BASOPHILIC** LEUKOCYTE.
AU BLOM T [Reprint author]; HUANG R; AVESKOGH M; NILSSON K; HELLMAN L
CS DEP IMMUNOL BMC, BOX 582, S-751 23 UPPSALA, SWED
SO European Journal of Immunology, (1992) Vol. 22, No. 8, pp. 2025-2032.
CODEN: EJIMAF. ISSN: 0014-2980.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 7 Oct 1992
Last Updated on STN: 8 Oct 1992
AB The knowledge about the differentiation of **basophilic** leukocytes is fragmentary. This report discusses a detailed phenotypic characterization of molecular markers for hematopoietic differentiation in a **basophilic** leukemia cell line, KU812. The expression of markers for lymphoid, erythroid, neutrophil, eosinophil, monocytic, **megakaryocytic, mast cell** and **basophil** differentiation was analyzed at the mRNA level by Northern blots in the KU812 cells, and for reference, in a panel of human cell lines representative of the different hematopoietic differentiation lineages. KU812 was found to express a number of **mast cell** and **basophil**-related proteins, i.e. **mast cell** tryptase, **mast cell** carboxypeptidase A, high-affinity immunoglobulin (IgE) receptor α and γ chains and the core protein for heparin and chondroitin sulphate synthesis. We found no expression of a number of monocyte/-macrophage or neutrophil leukocyte markers except for lysozyme. From earlier studies, it has been shown that lysozyme is not expressed in murine mucosal **mast cell** lines. This finding, together with the expression of the **mast cell** carboxypeptidase in KU812 might distinguish the phenotype of this cell line from that typical of mucosal **mast cell** lines in rodents. We found a low level of expression of the eosinophil and **basophil** marker, major basic protein, which might indicate a relationship between **basophils** and eosinophils. No expression is, however, detected with the eosinophil-specific markers eosinophil cationic protein, eosinophil-derived neurotoxin or eosinophil peroxidase. We also report an extensive screening for inducers of **basophilic** differentiation of the KU812 cells. The most efficient protocol of induction included serum starvation which led to a dramatic increase in a number of markers specific for **mast cells** and **basophils** such as tryptase, carboxypeptidase A and the heparin core protein. Finally, diisopropylfluorophosphate analysis of total protein extracts from KU812 show four labeled protein bands with sodium dodecyl sulfate-polyacrylamide gel electrophoresis, indicating that this cell line expresses at least three previously undescribed serine proteases of which one or more could be a potential **basophil**-specific marker(s).
CC Cytology - Human 02508
Biochemistry studies - Proteins, peptides and amino acids 10064
Enzymes - Physiological studies 10808
Blood - Lymphatic tissue and reticuloendothelial system 15008
Development and Embryology - Morphogenesis 25508
In vitro cellular and subcellular studies 32600
Immunology - Immunopathology, tissue immunology 34508
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Cell Biology; Clinical Endocrinology (Human Medicine, Medical Sciences); Development; Enzymology (Biochemistry and Molecular Biophysics)

ANSWER 6 OF 11 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 5
AN 1992:455033 BIOSIS
DN PREV199294096433; BA94:96433
TI PHENOTYPIC CHARACTERIZATION OF KU812 A CELL LINE IDENTIFIED AS AN IMMATURE HUMAN **BASOPHILIC** LEUKOCYTE.
AU BLOM T [Reprint author]; HUANG R; AVESKOGH M; NILSSON K; HELLMAN L
CS DEP IMMUNOL BMC, BOX 582, S-751 23 UPPSALA, SWED
SO European Journal of Immunology, (1992) Vol. 22, No. 8, pp. 2025-2032.
CODEN: EJIMAF. ISSN: 0014-2980.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 7 Oct 1992
Last Updated on STN: 8 Oct 1992
AB The knowledge about the differentiation of **basophilic** leukocytes is fragmentary. This report discusses a detailed phenotypic characterization of molecular markers for hematopoietic differentiation in a **basophilic** leukemia cell line, KU812. The expression of markers for lymphoid, erythroid, neutrophil, eosinophil, monocytic, **megakaryocytic, mast cell** and **basophil** differentiation was analyzed at the mRNA level by Northern blots in the KU812 cells, and for reference, in a panel of human cell lines representative of the different hematopoietic differentiation lineages. KU812 was found to express a number of **mast cell** and **basophil**-related proteins, i.e. **mast cell** tryptase, **mast cell** carboxypeptidase A, high-affinity immunoglobulin (IgE) receptor $\alpha$ and $\gamma$ chains and the core protein for heparin and chondroitin sulphate synthesis. We found no expression of a number of monocyte/-macrophage or neutrophil leukocyte markers except for lysozyme. From earlier studies, it has been shown that lysozyme is not expressed in murine mucosal **mast cell** lines. This finding, together with the expression of the **mast cell** carboxypeptidase in KU812 might distinguish the phenotype of this cell line from that typical of mucosal **mast cell** lines in rodents. We found a low level of expression of the eosinophil and **basophil** marker, major basic protein, which might indicate a relationship between **basophils** and eosinophils. No expression is, however, detected with the eosinophil-specific markers eosinophil cationic protein, eosinophil-derived neurotoxin or eosinophil peroxidase. We also report an extensive screening for inducers of **basophilic** differentiation of the KU812 cells. The most efficient protocol of induction included serum starvation which led to a dramatic increase in a number of markers specific for **mast cells** and **basophils** such as tryptase, carboxypeptidase A and the heparin core protein. Finally, diisopropylfluorophosphate analysis of total protein extracts from KU812 show four labeled protein bands with sodium dodecyl sulfate-polyacrylamide gel electrophoresis, indicating that this cell line expresses at least three previously undescribed serine proteases of which one or more could be a potential **basophil**-specific marker(s).
CC Cytology - Human 02508
Biochemistry studies - Proteins, peptides and amino acids 10064
Enzymes - Physiological studies 10808
Blood - Lymphatic tissue and reticuloendothelial system 15008
Development and Embryology - Morphogenesis 25508
In vitro cellular and subcellular studies 32600
Immunology - Immunopathology, tissue immunology 34508
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Cell Biology; Clinical Endocrinology (Human Medicine, Medical Sciences); Development; Enzymology (Biochemistry and Molecular Biophysics)

IT Miscellaneous Descriptors
IN-VITRO MODEL DIFFERENTIATION STATUS SERINE PROTEASES
ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia
Taxa Notes
Animals, Chordates, Humans, Mammals, Primates, Vertebrates
RN 37259-58-8D (SERINE PROTEASES)

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